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### 1991 Feature Article - Merchandise Export and Import Statistics by Country - Factors Affecting Bilateral Reconciliations

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#### Introduction

An economy's foreign trade statistics are used for a variety of private and public purposes. When these statistics are classified by the country to which exports are sent and from which imports are received then the data are expected to support, among other things, analyses of:

- the source, price and volume of import competition for particular commodities produced in the country compiling the statistics;
- the markets for the compiling country's exports; and
- goods trade flows between trading partners as part of a general assessment of bilateral and multilateral trade and other economic relationships.

2. Because of the importance of merchandise trade in global economic development and growth, the United Nations (UN) and the International Monetary Fund (IMF) both publish quite detailed merchandise ex-ports and imports statistics for each of their member countries for which the information can be obtained. These data form the focus for many government, academic and commercial analysts interested in trade theory, in monitoring trading developments and formulating trade policy.

3. However, quite significant apparent differences in statistics of exports and imports between trading partners has caused concern for some trade statistics users, and even disbelief in the validity of the statistics. Data analysts have in some instances developed methods of adjusting the published data in an attempt to "correct" for the differences and so obtain balanced trade flow statistics.

4. This article looks at the nature of international merchandise trade statistics and the reporting, to the UN and IMF, of Australia's major trading partners to ascertain:

- whether "balance" or asymmetry should be expected in the recording of trade flows by trading partners; and
- whether analysing the body of international trade statistics published by the UN and the IMF offers any cause for concern about the veracity of the foreign trade statistics for Australia published by the ABS.

#### Comparability of international trade statistics

5. The UN has taken the lead in developing and promulgating standards for the compilation and

presentation of international trade statistics. Its publication International Trade Statistics, Concepts and Definitions, Statistical Papers, Series M, No.52, Rev. 1 is a statistical standard adopted by many countries. The UN has also developed successive revisions of the Standard International Trade Classification (SITC) so that member countries' international trade statistics will not only be compiled using compatible concepts but can also be presented on a common commodity classification suited to the needs of trade analysts.

6. The UN publishes detailed statistics annually for each member country, classifying their merchandise export and import flows by trade partner for each of the 3,100 or so five digit codes of the SITC. It is quite some time after a particular year before a reasonably comprehensive coverage of countries is achieved by the UN statistics.

7. The IMF publishes its Direction of Trade Statistics (DOTS) monthly, recording merchandise trade for each member (and some other countries) classified by the country of trading partner. No commodity dimension is provided. Because the IMF's DOTS are more timely and comprehensive in country coverage than the UN data they have been used as the first point of comparison in this analysis of Australia's foreign trade statistics. However, where apparent anomalies have been observed between the recording of merchandise trade in Australian and partner country statistics, the commodity detail in the UN data has been used to examine more closely the nature of any differences.

8. At first glance the DOTS data appear to present evidence of general incompatibility in the recording of international trade flows - quite significant differences are exhibited between certain countries exports to other countries and the corresponding recording of imports by those other countries. The situation with regard to statistics for Australia is summarised in Table 1. Australia's reported exports in 1987 are some \$3,895 million less than the total imports from Australia reported by the rest of the world. In 1988 and 1989 the amounts by which the rest of the world's imports exceed Australia's reported exports are \$3,106 million and \$2,602 million, respectively. In those same three years Australia's reported imports are higher than the rest of the world's reported exports to Australia by \$878 million, \$350 million and \$2,807 million, respectively.

**TABLE 1. AUSTRALIA'S MERCHANDISE TRADE - COMPARISONS OF ABS STATISTICS(a) WITH PARTNER COUNTRY REPORTING(b)**

Country	Australia's exports			Australia's imports			%
	As published by the ABS (fob basis)	As published by partner countries (cif basis)	Differences(c) (\$A million)	As published by the ABS (fob basis)	As published by partner countries (cif basis)	Differences(c) (\$A million)	
<b>1987</b>							
United States	4,322	4,690	-368	-9	8,197	7,840	357
Canada	621	603	19	3	786	739	47
Japan	9,715	11,375	-1,660	-17	7,594	7,413	181
New Zealand	2,139	2,104	35	2	1,581	1,612	-31
Belgium-Luxembourg	296	371	-75	-25	322	321	-1
Finland	58	58	0	-1	277	280	-3
France	965	1,357	-392	-41	834	778	56
Germany	1,082	1,460	-378	-35	2,788	2,759	29
Italy	873	950	-77	-9	1,234	1,251	-17
Netherlands	622	568	54	9	560	558	2
Sweden	118	161	-43	-37	727	669	58
Switzerland	410	88	322	78	522	551	-29
United Kingdom	1,625	1,575	50	3	2,780	2,866	-86

China	1,528	1,890	-362	-24	739	425	314	42
Hong Kong	1,404	886	518	37	836	1,208	-372	-45
Indonesia	508	661	-153	-30	519	442	77	15
Korea	1,549	1,825	-276	-18	997	883	114	11
Malaysia	600	752	-152	-25	466	571	-105	-22
Papua New Guinea	723	688	35	5	154	133	21	14
Singapore	897	893	4	0	798	1,121	-323	-41
Thailand	268	325	-57	-21	315	308	7	2
Total of above	30,323	33,281	-2,958	-10	33,026	32,728	298	1
Other World	7,524	8,462	-938	-12	5,515	4,935	580	11
	37,847	41,742	-3,895	-10	38,541	37,663	878	2

### 1988

United States	4,454	4,927	-473	-11	9,097	8,882	215	2
Canada	768	698	70	9	962	926	36	4
Japan	11,365	13,115	-1,750	-15	8,530	8,523	7	0
New Zealand	2,070	2,025	45	2	1,862	1,957	-95	-5
Belgium-Luxembourg	388	502	-114	-29	331	332	-1	0
Finland	92	99	-7	-8	320	310	10	3
France	964	1,322	-358	-37	1,046	954	92	9
Germany	1,064	1,567	-473	-44	2,859	2,666	193	7
Italy	1,125	1,256	-131	-12	1,300	1,269	31	2
Netherlands	656	473	183	28	615	584	31	5
Sweden	133	186	-53	-40	797	718	79	10
Switzerland	239	74	165	69	500	494	6	1
United Kingdom	1,505	1,665	-160	-11	3,140	3,127	13	0
China	1,100	1,419	-319	-29	886	462	424	48
Hong Kong	2,174	922	1,252	58	859	1,409	-550	-64
Indonesia	615	738	-123	-20	402	379	23	6
Korea	1,956	2,288	-332	-17	1,102	1,103	-1	0
Malaysia	685	876	-191	-28	632	658	-26	-4
Papua New Guinea	778	625	153	20	101	122	-21	-21
Singapore	1,355	1,107	248	18	967	1,359	-392	-41
Thailand	375	442	-67	-18	357	379	-22	-6
Total of above	33,861	36,299	-2,438	-7	36,665	36,612	53	0
Other World	8,046	8,715	-669	-8	5,740	5,443	297	5
	41,907	45,013	-3,106	-7	42,405	42,055	350	1

### 1989

United States	5,105	5,295	-190	-4	11,571	10,532	1,039	9
Canada	627	659	-32	-5	1,239	1,173	66	5
Japan	12,522	14,514	-1,992	-16	10,519	9,808	711	7
New Zealand	2,413	2,309	104	4	2,099	2,114	-15	-1
Belgium-Luxembourg	391	497	-106	-27	434	425	9	2
Finland	110	111	-1	-1	343	356	-13	-4
France	953	1,247	-294	-31	1,270	1,175	95	8
Germany	1,194	1,600	-406	-34	3,272	3,182	90	3
Italy	1,026	1,261	-235	-23	1,581	1,504	77	5
Netherlands	808	421	387	48	547	555	-8	-1
Sweden	133	264	-131	-98	904	824	80	9
Switzerland	584	90	494	85	545	530	15	3
United Kingdom	1,715	1,783	-68	-4	3,538	3,528	10	0
China	1,202	1,666	-464	-39	1,227	492	735	60
Hong Kong	1,739	922	817	47	894	1,610	-716	-80
Indonesia	966	1,191	-225	-23	496	469	27	5
Korea	2,443	2,850	-407	-17	1,347	1,282	65	5
Malaysia	898	1,083	-185	-21	748	723	25	3

Papua New Guinea	806	679	127	16	165	111	54	33
Singapore	1,762	1,060	702	40	1,272	1,310	-38	-3
Thailand	547	603	-56	-10	480	474	6	1
Total of above	37,944	40,104	-2,160	-6	44,491	42,178	2,313	5
Other	9,479	9,922	-443	-5	7,303	6,809	494	7
World	47,423	50,025	-2,602	-5	51,794	48,987	2,807	5

(a) Source: ABS Microfiche Tables (MM03C MX03C), Dec 86 - Dec 87, Jun 88 - Dec 88, Dec 88 - Dec 89.

(b) Source: Direction of Trade Statistics Yearbook 1990, International Monetary Fund.

(c) The absolute and percentage differences are calculated using the published ABS data as the base.

## Point of valuation

9. The first thing to note however is that the DOTS (and the UN data) follow the UN recommendation on the point of valuation to be used in presenting international trade statistics. Exports are valued free on board (fob.) the carrier at the national frontier of the exporting country. This f.o.b. valuation of the goods includes all distributive services both up to the national frontier and in loading the goods onto the carrier for export. Imports on the other hand are valued free on board the carrier at the frontier of the importing country. This valuation includes not only the value of the goods and all distributive services used up to the national frontier and in loading for export (the cost of the goods) but also the insurance and freight costs borne in getting the goods to the national frontier of the importing country (c.i.f.).

10. For trading partners with common borders there will be no essential difference in their bilateral trade measures due to the c.i.f. point of valuation used for imports and the fob. point of valuation used for exports. However, for countries such as Australia trading at the end of quite long trade routes, there will be significant differences between exports statistics compiled on an f.o.b. basis and the partner countries' imports statistics compiled on a c.i.f. basis.

11. To assist users in making the adjustment between c.i.f. and f.o.b. the IMF publishes, in the yearbook edition of its publication International Financial Statistics (IFS), a global c.i.f. / fob. ratio for each of the countries shown in DOTS. Many users simply adjust either the export or import statistics in a bilateral trade relationship by applying this ratio. While the methodology may be appropriate for some countries, it is unlikely to be satisfactory in Australia's case. It is very unlikely that the average c.i.f. / fob. ratio that applies to another country's total imports from the rest of the world will adequately compensate for either:

- the freight and insurance charges borne because of the distances between Australia and most of its major trading partners; or for
- the predominance of bulk commodities in Australia's exports which dramatically increases freight costs relative to the fob. valuation.

12. Looking at the data for Japan, Australia's most significant trading partner, illustrates the problem of a too simplistic adjustment for point of valuation. The average c.i.f. / f.o.b. ratio for Japan in 1989 was 1.09. Using this ratio "explains" less than a half of the apparent 16 per cent difference between Japan's reported imports from Australia (c.i.f.) and Australia's reported exports to Japan (f.o.b. basis). However, most of Australia's exports to Japan are bulk commodities such as coal, mineral ores, natural gas and agricultural produce which attract high freight charges relative to the fob. value of the goods. If Australia's exports of these commodities to Japan are adjusted using a representative c.i.f. / f.o.b. ratio for each major commodity group, and an average ratio is used to adjust the rest, then over three quarters of the apparent difference between Australia's reported exports and Japan's reported imports is explained, leaving an unexplained difference of only 3 per cent in 1989.

13. Representative c.i.f. / f.o.b. ratios for a number of commodities exported by Australia to some of its major trading partners are being developed using either:

- the ratio recorded for Australia's imports of the same commodity from that country; or
- the actual freight rates paid on such exports (as measured in the ABS collection Survey of International Shipping Operations), applied to the quantities exported to develop c.i.f. valuations; or
- either the c.i.f. / f.o.b. ratio or freight rate applying to a commodity displaying similar freight characteristics.

Table 2 shows, in the second column, the differences due to the different points of valuation adopted in compiling Australia's exports statistics and the imports statistics reported by its trading partners. Where a detailed analysis of the commodity composition effect on c.i.f. / f.o.b. relationships has been undertaken, the differences are footnoted. For the countries in the table for which commodity analysis has not yet been conducted, average ratios recorded for Australia's imports from those countries have been used.

**TABLE 2. AUSTRALIA'S MERCHANDISE TRADE - PARTIAL EXPLANATION OF DIFFERENCES BETWEEN ABS STATISTICS(a) AND PARTNER COUNTRY REPORTING(b)**

Country	Australia's exports					Australia's imports				
	(fob basis)	Point of valuation	As explained differences published by the ABS			As unexplained differences published by partner countries			(fob basis)	(fob basis)
			Re-exports	Gold (cif basis)	(e)	(\$A million)	%	Re-exports	(d)	(\$A million)
<b>1987</b>										
United States	4,322	182		4,690	-186	-4	8,197	-34	7,840	323
Canada	621	0(g)		603	18	3	786		739	47
Japan	9,715	1,263(h)		11,375	-397	-4	7,594	-36	7,413	145
New Zealand	2,139	175		2,104	210	10	1,581		1,612	-31
Belgium-Luxembourg	296	9		371	-66	-22	322		321	1
Finland	58	3		58	2	4	277		280	-3
France	965	93(h)		1,357	-299	-31	834	-13	778	44
Germany	1,082	76(h)		1,460	-302	-28	2,788		2,759	29
Italy	873	60		950	-17	-2	1,234		1,251	-17
Netherlands	622	86(h)		568	140	23	560		558	2
Sweden	118	3		161	-41	-34	727		669	58
Switzerland	410	4		88	326	79	522		551	-29
United Kingdom	1,625	60		1,575	110	7	2,780		2,866	-86
China	1,528	138	225	1,890	1	0	739	-347	425	-33
Hong Kong	1,404	60(h)	-225	-598	886	-245	-17	836	534	1,208
Indonesia	508	61		661	-92	-18	519		442	77
Korea	1,549	87		1,825	-189	-12	997		883	114
Malaysia	600	63		752	-89	-15	466		571	-105
Papua New Guinea	723	108		688	144	20	154		133	21
Singapore	897	54	-70	893	-12	-1	798		1,121	-323
Thailand	268	29		325	-28	-11	315		308	7

Total of above	30,323	2,613	-668	33,281	-1,013	-3	33,026	104	32,728	402	1
Other World	7,524	648	0	8,462	-289	-4	5,515	-104	4,935	476	9
	37,847	3,261	-668	41,742	-1,302	-3	38,541		37,663	878	2

### 1988

United States	4,454	187		4,927	-286	-6	9,097	-31	8,882	185	2
Canada	768	0(g)		698	70	9	962		926	36	4
Japan	11,365	1,477(h)		13,115	-273	-2	8,530	-70	8,523	-64	-1
New Zealand	2,070	170		2,025	215	10	1,862		1,957	-95	-5
Belgium-Luxembourg	388	12		502	-102	-26	331		332	-1	0
Finland	92	4		99	-3	-4	320		310	10	3
France	964	93(h)		1,322	-266	-28	1,046	-22	954	70	7
Germany	1,064	74(h)		1,567	-398	-37	2,859		2,666	193	7
Italy	1,125	78		1,256	-53	-5	1,300		1,269	31	2
Netherlands	656	91(h)		473	274	42	615		584	31	5
Sweden	133	3		186	-50	-38	797		718	79	10
Switzerland	239	2	-29	74	138	58	500		494	6	1
United Kingdom	1,505	56		1,665	-105	-7	3,140		3,127	13	0
China	1,100	99	221	1,419	0	0	886	-497	462	-73	-8
Hong Kong	2,174	93(h)	-221-1,279	922	-155	-7	859	728	1,409	178	21
Indonesia	615	74		738	-50	-8	402		379	23	6
Korea	1,956	110		2,288	-222	-11	1,102		1,103	-1	0
Malaysia	685	72		876	-119	-17	632		658	-26	-4
Papua New Guinea	778	117		625	270	35	101		122	-21	-21
Singapore	1,355	81	-406	1,107	-76	-6	967		1,359	-392	-41
Thailand	375	41		442	-27	-7	357		379	-22	-6
Total of above	33,861	2,933	-1,714	36,299	-1,219	-4	36,665	108	36,612	161	0
Other World	8,046	697	0	8,715	28	0	5,740	-107	5,443	190	3
	41,907	3,630	-1,714	45,013	-1,191	-3	42,405	0	42,055	350	1

### 1989

United States	5,105	214		5,295	25	0	11,571	-40	10,532	998	9
Canada	627	0(g)		659	-32	-5	1,239		1,173	66	5
Japan	12,522	1,628(h)		14,514	-365	-3	10,519	-56	9,808	656	6
New Zealand	2,413	198		2,309	302	13	2,099		2,114	-15	-1
Belgium-Luxembourg	391	12		497	-94	-24	434		425	9	2
Finland	110	5		111	4	4	343		356	-13	-4
France	953	91(h)		1,247	-202	-21	1,270	-11	1,175	84	7
Germany	1,194	84(h)		1,600	-322	-27	3,272		3,182	90	3
Italy	1,026	71		1,261	-164	-16	1,581		1,504	77	5
Netherlands	808	112(h)		421	499	62	547		555	-8	-1
Sweden	133	3		264	-128	-96	904		824	80	9
Switzerland	584	6	-220	90	281	48	545		530	15	3
United Kingdom	1,715	63		1,783	-4	0	3,538		3,528	10	0
China	1,202	108	236	1,666	-119	-10	1,227	-723	492	12	1
Hong Kong	1,739	74(h)	-236	922	-110	-6	894	931	1,610	215	24
Indonesia	966	116		1,191	-109	-11	496		469	27	5
Korea	2,443	137		2,850	-271	-11	1,347		1,282	65	5
Malaysia	898	94		1,083	-90	-10	748		723	25	3
Papua New Guinea	806	121		679	248	31	165		111	54	33
Singapore	1,762	106	-683	1,060	125	7	1,272		1,310	-38	-3
Thailand	547	59		603	3	1	480		474	6	1

Total of above	37,944	3,303	-1,667	40,104	-524	-1	44,491	101	42,178	2,414	5
Other	9,479	825	0	9,922	382	4	7,303	-101	6,809	393	5
World	47,423	4,128	-1,667	50,025	-142	0	51,794	0	48,987	2,807	5

(a) Source: ABS Microfiche Tables (MM03C MX03C), Dec 86 - Dec 87, Jun 88 - Dec 88, Dec 88 - Dec 89.

(b) Source: Direction of Trade Statistics Yearbook 1990, International Monetary Fund.

(c) See paragraphs 9 to 14.

(d) See paragraphs 15 to 30.

(e) See paragraph 34.

(f) The absolute and percentage differences are calculated using the published ABS data as the base.

(g) There is no point of valuation difference for Canada as their import statistics are reported on an fob basis.

(h) Trade weighted cif/fob ratio used.

14. Fortunately, Australia publishes its imports statistics on an f.o.b. point of valuation basis so that a similar adjustment is not necessary when comparing our imports with our trading partners' reported exports to Australia.

### Basis of country classification

15. While correctly adjusting for point of valuation does bring Australia's exports statistics much closer to its partner countries' reported imports from Australia, some significant differences remain.

16. However, before proceeding to further analyse country statistics, it is worth considering what trade statistics classified by country are meant to represent. The UN recommends that the concept of "final destination" be used to classify exports statistics by trading partner. The country compiling the exports statistics should attempt to classify the goods to the country where they are going to be consumed. How-ever, this is recognised as an often impossible task - the exporter is simply not in a position to know whether the goods are to be further manufactured or otherwise consumed in the country to which they are consigned, or whether they will be traded with yet another country. The country of consignment will be used in most cases.

17. For imports the UN recommends that the country of origin, or production, be used to identify the trading partner supplying the goods. Production is defined to exclude minor operations, such as shelling, bottling or labelling, that do not alter the essential nature of the goods.

18. It is clear from the above definitions that, in concept at least, exports and imports statistics will only be symmetrical, or "balance", between trading partners when exports are shipped to a final destination (for consumption or further manufacture). If final goods are traded beyond the country of production (ie, re-exported), then a single export from one country of origin could well be counted several times both as re-exports by third party traders and as imports classified to the country of origin by each country taking possession of the goods.

### Re-exports

19. A simple example will help clarify the nature of the re-export problem. Suppose a trader in France thinks there is a market in Europe for koala teddy bears. The bears are purchased from an Australian supplier and on-sold in a variety of European markets. The producer will report exports to France and Australia's exports statistics will record a single export to France. France will report imports from Australia to the value of the Australian exports. However, each purchaser in the other European countries will also record imports originating from Australia to the value of whatever koalas are on-sold to them by the importer in France. This value, because it will reflect the price paid to the trader in France, will include the transportation costs from Australia and any profit taken by the trader in France. If the bears are sold or otherwise traded a third time then yet another country will record imports originating from Australia.

### Impact of re-export trade on global comparisons

20. The impact of re-exports on bilateral trade flows can be gauged for the few countries that separately identify the item. For the United States, re-exports account for about 4 to 5 per cent of a merchandise exports total of about US\$400 billion per annum. With re-exports of US\$15-20 billion per annum, it is quite possible that some individual trading partners of the United States could have a very significant proportion of their trade with the United States retraded with a third country. This retrading is likely to apply particularly between the United States and its near neighbours. For example, a central American importer may well prefer to deal with a known United States supplier even though the origin of the goods supplied is elsewhere in the world.

21. Australia's re-exports account for 5 per cent of its total merchandise exports, although the proportions occurring with particular trading partners vary significantly. For example, Australia's re-exports to New Zealand account for 20 per cent of Australia's total exports to New Zealand. For New Zealand, re-exports account for about 3 per cent of that country's exports, while for Pakistan re-exports are only 1 per cent of the total.

22. However, the problem of re-exports confusing bilateral trade flow analysis becomes even more significant for entrepot ports such as Hong Kong, Singapore, Rotterdam etc. In some of these cases, such as Hong Kong, the importance of the entrepot trading activity has resulted in the separate identification of the re-export trade. In others, such as countries compiling trade statistics on the "special trade basis" (see paragraphs 31 to 33), the trade may be excluded from published statistics with the result that apparent imports from the country of origin are not overstated but the bilateral trading relationships are obscured.

23. In the case of Hong Kong, re-exports account for 50 per cent or more of total exports. Traders in Hong Kong do a large amount of business by buying in one country to on-sell in another. The exporting countries are only aware of the Hong Kong destination of the goods, yet both Hong Kong and the country of final consumption will record imports originating from the exporting country. Fortunately, the Hong Kong Census and Statistics Department publishes, in Hong Kong Review of Overseas Trade, details of its sizeable re-export trade so that the impact on bilateral trade analysis can largely be monitored.

### **Impact of re-export trade on Australia's exports comparisons**

24. In Table 2, the third column shows the amount of Australian exports to Hong Kong that have been re-exported to China while the ninth column shows Hong Kong's re-export trade to Australia classified by country of origin, although some proportion of those re-exports remain unallocated by country of origin. An initial apparent understatement of \$220 million in respect of Australia's exports to China in 1988 (compared with that country's imports from Australia) is eliminated once the Hong Kong re-export trade is considered. Unfortunately, details from entrepot ports other than Hong Kong are not as readily available.

25. An example of the probable significance of the re-export trade for bilateral trade comparisons between Australia and its trading partners also emerges in looking at trade with European countries. Australia's exports to France and Germany appear at first glance to persistently underestimate those countries recorded imports from Australia. Much of this apparent understatement relates to some confirmed and significant examples of re-export trade. Wool is shipped to stockpiles in Europe for selling direct to European customers. Both the stockpile country and the purchasing country will record imports from Australia. Another example involves trade in Australian coal which appears to be traded through more than one European country. The details of the adjustments for these re-exports are yet to be finalised.

26. Also, trade in commodities for which ABS confidentiality provisions preclude identification of the trading partner appears to mask significant re-export trade in Europe of goods of Australian origin.

### **Impact of re-export trade on Australia's imports comparisons**

27. Turning to Australia's imports statistics, in each of 1987 and 1988, Australia's imports exceed the rest of the world's recorded exports to Australia by 1 to 2 per cent. However, in 1989 the apparent overstatement in Australia's imports jumps to 5 per cent, largely due to much higher trade identified as originating from the United States and Japan than is recorded as being exported by those two countries to Australia.

28. Between 1988 and 1989 the value of Australia's imports originating from the United States but being loaded for shipment in third countries rose from \$727 million (8 per cent of imports from the United States) to \$1,138 million (11 per cent of imports from the United States). The size of this increase may reflect factors other than re-exports. For example, the rise in third country ports of loading for United States' goods may result from an increased level of trans-shipment activity, that is, goods not being retrade by third countries but simply moving through those third countries on-route between the trading partners. However, it is likely that most of the \$411 million increase in third country loadings reflects an increase in the re-export trade. This would then explain some of the large difference between Australia's imports statistics and the United States' exports statistics that emerges in 1989.

29. However, any increase in re-export activity resulting in a large apparent overstatement of Australia's imports from the United States might also be expected to produce corresponding apparent understatements in Australia's imports from the countries that would be re-exporting the United States' goods to Australia. This would be the case if those countries engaged in re-exporting record those transactions in their exports statistics. On the other hand, countries using the special trade basis of recording (see paragraphs 31 to 33) could well exclude such trade.

30. For Australia's imports from Japan there is no obvious explanation related to re-exports for the apparent overstatement emerging in Australia's import statistics for 1989. While about 3 per cent of Australia's imports originating from Japan are loaded elsewhere, this proportion has remained stable for the past few years.

### **Basis of compilation - general trade versus special trade**

31. There are two bases of compilation usually adopted in international trade statistics:

- general trade, which identifies all goods movement, whether or not the goods enter for home consumption in the importing country; and
- special trade, which essentially restricts its focus to goods entering the domestic economy of the importer.

32. While the general trade basis of compilation is the preferred international standard, many countries do adopt the special trade basis. Under the special trade methodology, goods imported and held in customs bond with the intention that they be re-exported will be excluded from the imports statistics of the country where they are held in bond. When the special trade basis is used for recording re-export transactions in this way there will not be the usual double counting of each export by the country of origin in the imports statistics of the intermediate and final users. However, the re-exports will obscure the trading relationships between countries. For example, Australia's exports to the Netherlands apparently overstate the level of imports from Australia as recorded in the Netherlands' imports statistics. This apparent overstatement of exports to the Netherlands is primarily accounted for by the re-export of goods consigned to the Netherlands but, because of its operation as an entrepot port and the use of the special trade system of compilation, the goods are not recorded in the Netherlands imports statistics.

33. The adoption of the special trade system will also mean that goods imported into customs bond for processing and re-export will be excluded from the international trade statistics of the country undertaking the processing. As with re-exports, the bilateral trading relationships will be obscured, but in a slightly different way. The initial export prior to processing will not be matched by recorded

imports from that origin in any country's statistics. The country undertaking the processing and using the special trade basis will record no imports from the country of origin, while the country to which the processed goods are sent will record imports from the country of last manufacture ie, the processing country.

### **Other factors affecting bilateral reconciliations**

34. There are a number of influences, other than point of valuation, re-exports and the general or special trade bases of compilation, that can affect the ease with which comparability can be achieved in bilateral trade flow analysis. These include:

- the varying definitions of merchandise trade, For example, Table 2 includes differences due to Australia's exports of gold bullion to Hong Kong and Singapore not being included in those countries' merchandise imports statistics;
- the varying application of the definition of country of origin, with some countries (such as New Zealand) applying the criterion of proportion of value added rather than last stage of manufacture. This probably explains why, in 1988, France recorded imports from Australia of US\$139 million of enriched or otherwise processed uranium, whereas Australia exports uranium ores and concentrates;
- the varying coverage of transactions, with small value transactions not being measured by some countries but being counted by others;
- timing differences between the recording of an export in one country's statistics and the recording of the corresponding import in the trading partner's statistics, which may impact on comparability for particular periods;
- the suppression of merchandise trade details due to the confidentiality of the information, which may present users with an asymmetry in published statistics;
- currency conversion practices; and
- errors and omissions.

### **“Adjusting” international merchandise trade statistics**

35. Measuring the impact of the re-export trade, different bases of trade, point of valuation and other conceptual and methodological differences is a large and complex task often frustrated by the lack of information on which to make any reasonable assessment of the significance of the various factors involved. So far only limited measures have been attempted for the few countries for which information could be readily obtained. However, it is clear that scope exists for much if not all of the remaining apparent discrepancies in bilateral trade flows to be accommodated by these complications even if in many cases the data to pursue the reconciliations are not readily available.

36. Bearing the above in mind, users wishing to easily “adjust” trade statistics to accommodate particular analyses may need to modify their approach according to the nature of the analysis. For example, where interaction between the international trade statistics and other measures, such as financing or domestic activity, is an important element in the analysis, the “adjustment” should probably use the exports statistics of a country as the control total, rather than the imports statistics of trading partners. This form of analysis will avoid the overstatement of countries' exports statistics and the consequent imbalance

within external accounts and between those statistics and production statistics and related activity measures in the economy of the exporters. Where the analysis is concentrating on issues of market access and bilateral trade negotiation, countries' imports statistics should perhaps be used because of the widespread use of the concept of “origin” in their compilation. This will help ensure that goods

routed through third parties are also taken into account in the analyses.

## CONCLUSION

37. The above discussion has explained that quite significant "asymmetries" in bilateral trade flows can result from the nature of the concepts underlying their compilation rather than errors in the compilation process. In the case of Australia's merchandise trade statistics, an often observed apparent under-statement in the recording of exports, when compared with other countries' imports statistics, is largely accounted for by the differences in point of valuation and the prevalence of re-exports in world trade. Unexplained export differences remaining for 1987 and 1988 are about 3 per cent in total, falling to a negligible level in 1989. Individual country differences can, however, be quite large. Divergence from international standards, such as the recording by some countries of imports from Australia despite manufacture elsewhere, also contribute to the global and individual country discrepancies.

38. Australia's imports statistics appear to have been broadly consistent in 1987 and 1988 with other countries' recording of exports to Australia. In 1989 a significant apparent overstatement of Australia's imports has developed, particularly with the United States (which may be due to re-export trade and the mix of general and special trade bases of compilation) and with Japan. The overstatement may also reflect the preliminary nature of the available data for Australia's trading partners. Once UN commodity data for Japan and the United States are available for 1989 the differences will be examined more closely.

39. To further assist users in analysing Australia's bilateral trade flows, an article pursuing the reconciliation in further detail and utilising additional statistics for Australia's trading partners as they become available will be prepared for future publication. A report, prepared jointly by the ABS and the New Zealand Department of Statistics, looking at the issues of statistical harmonisation in international merchandise trade statistics, comparing Australian and New Zealand statistical practices and broadly reconciling the two countries' data will be published by the ABS as an Occasional Paper. Other individual country studies will also be published, as Occasional Papers or in the ABS quarterly publication *Exports and Imports, Australia, Merchandise Trade by Country and Country Groups* (cat. no. 5422.0), when they are complete.

This feature article was contributed by Bob McColl and John Quinn, ABS.

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